

REMARKS

Claims 1-11, 14, 15, and 17-21 are pending in this application. Claims 1, 7, 11, and 18, the independent claims, have been amended to define still more clearly what Applicants regard as their invention.

Claims 1-10 were rejected under 35 U.S.C. § 103(a) as being obvious from U.S. Patent No. 5,001,738 to Brooks in view of U.S. Patent No. 6,320,934 to Carroll et al. and U.S. Patent No. 6,315,444 to Koren. Claims 11, 14, 15, and 17-21 were rejected under Section 103(a) as being obvious from Brooks in view of Carroll et al.

Independent Claim 1 is directed to a positioning system for dental x-ray examinations, comprising an electronic image sensor, a sheath covering the electronic image sensor, and a holder removably bonded to the sheath by a pressure sensitive adhesive. The pressure sensitive adhesive enables the holder to be applied to and removed from the sheath by a dental practitioner. Independent Claim 11 is also directed to a positioning system for dental x-ray examinations, and generally parallels Claim 1, but does not recite the sheath.

Independent Claim 7 is directed to a method for enabling a dental practitioner to position an electronic dental image sensor. The method comprises the steps of placing the electronic sensor in a sheath, and affixing a holder having a pressure sensitive adhesive coating to the sheath to create a removable bond between the holder and the sheath. The method further comprises the steps of positioning the holder and the electronic sensor within the mouth of patient, capturing at least one dental image, and removing the holder from the sheath following the capture of the at least one dental image. Independent Claim 18 is also directed to a method for enabling a dental practitioner to

position an electronic dental image sensor, and generally parallels Claim 7, but does not recite placing the electronic sensor in a sheath.

Each of independent Claims 1, 7, 11, and 18 recites the salient feature of a positioning system or method that uses a holder removably bonded to an electronic image sensor (or to a sheath covering an electronic image sensor) by a pressure sensitive adhesive, which enables the holder to be applied to and removed from the electronic image sensor (or sheath) by a dental practitioner. This feature is neither taught nor suggested by the prior art. By virtue of this feature, the positioning system or method recited in the independent claims allows the dental practitioner to carefully align and accurately position the electronic sensor, thereby providing flexibility in placement. This improves upon patient comfort and allows more reliable images to be produced.

Brooks, as understood by Applicants, relates to a dental x-ray film holder having a film packet for holding x-ray film. A bite tab is attached to and extends from the film packet for gripping between the teeth to hold the film packet in place adjacent the teeth. An aligning system is provided on the bite tab for aiming an x-ray tube directly at the film packet adjacent the teeth and includes an opening in the bite tab for properly positioning the film packet adjacent a tooth. At least two aiming lines extend across one side of the bite tab and film packet and a center of film indication is on the bite tab.

As stated in Brooks, Fig. 2 shows the bottom of the bite tab 12 before being attached to the film packet 11 while Fig. 3 shows a top plan view of the bite tab 12 of Fig. 2. Fig. 2 has the back surface 21 coated with an adhesive and has a pair of openings 22 and 23. As seen in Fig. 3, bite tab 12 is folded on the fold line 24 which brings the openings 22 and 23 into direct alignment so that the adhesive can attach the portions 25 and 26 together

to form the extending part of the bite tab. End 27 is folded on the fold line 28 and end portion 30 is folded on the fold line 31 so that the end portions 27 and 30 cover most of the film packet portion 11 and allow the adhesive surface thereon to attach directly on top of an existing film packet which already has the x-ray film mounted between paper or plastic materials to seal the film from light radiation. (See column 3, lines 37-52.)

The Office Action states that Brooks discloses “a positioning system for dental x-ray examinations, comprising an image sensor (11), and a holder (10) bonded to the image sensor by an adhesive (21).” However, firstly, as can be seen from the above description of Brooks, and as conceded in the Office Action, Brooks does not teach that the image sensor is an electronic image sensor, as recited in the independent claims; rather, Brooks describes a conventional technique for assembling a film packet having an integrated bite tab. The purported invention of Brooks is the “aligning system” which is provided on the bite tab, the aligning system being simply lines drawn on the bite tab and an opening in the bite tab. This aligning system has nothing to do with the present invention.

Furthermore, nothing has been found in Brooks that would teach or suggest that the holder is removably bonded to a sheath (or to an image sensor) by a pressure sensitive adhesive, as recited in the independent claims. The pressure sensitive adhesive employed by the present invention, which creates the removable bond, allows the holder to be removed and reapplied to the sheath (or to the image sensor itself). This enables a dental practitioner, for example, using an electronic sensor to obtain another x-ray image on the same patient, or obtain a more comfortable sensor position.

There is no indication whatsoever that Brooks teaches a removable bond, as conceded in the Office Action, and therefore Brooks cannot teach that the holder is removably bonded to the sheath (or to the image sensor) by a pressure sensitive adhesive. As explained above, Brooks is directed to a conventional technique for assembling a film packet having an integrated bite tab. Since re-using a piece of film that has been exposed is not possible under any circumstances, the utilization of a removable bond, particularly one effected by a pressure sensitive adhesive, would serve no purpose in the Brooks technique. Therefore, it would not have been at all obvious to a person having ordinary skill in the art to use a removable bond in the film-based system of Brooks.

The Office Action states that "it would have been obvious to a person of ordinary skill in the art at the time the invention was made to employ an electronic image sensor for intraoral dental radiography, since a person would be motivated to see the image in real time, and a person would be motivated to keep the cost down by using a reusable image sensor." However, Applicants submit that it would not have been obvious to a person having ordinary skill in the art, even using an electronic image sensor, to utilize a removable bond effected by a pressure sensitive adhesive, since Brooks does not teach a removable bond (as conceded by the Examiner) and it is not possible to re-use a piece of film that has been exposed in the film-based system of Brooks.

The Office Action further states that "it would have been obvious to a person of ordinary skill in the art at the time the invention was made to bond the holder removably to the sheath by an adhesive, since a person would be motivated to position the holder by trial and error in order to find the best orientation for the image sensor." Applicants submit that this conclusion by the Examiner is based on improper hindsight

reasoning and includes knowledge gleaned only from Applicants' disclosure. For example, nowhere in the cited references is a removable bond discussed and, as mentioned, the use of a removable bond effected by a pressure sensitive adhesive in the film-based system of Brooks would serve no purpose.

Indeed, as explained in the Amendment dated February 24, 2003, it is submitted that the use of an adhesive that creates a removable bond would be unsuitable for Brooks, since if such an adhesive were used in the Brooks manufacturing technique, significant problems would occur. For example, in the manufacturing technique of Brooks, the same adhesive that attaches the bottom of the bite tab 12 to the film packet 11 is used to attach the upstanding walls (created by folding the bite tab along line 24) to one another. It is desirous that the bond between those upstanding walls be permanent, since if it were removable, the mechanical action of the patients' teeth would cause the walls to shift, which would in turn compromise the integrity of the x-ray images being obtained. Accordingly, a person having ordinary skill in the art would not consider using an adhesive that creates a removable bond in the manufacturing process of Brooks,

Carroll et al., as understood by Applicants, is merely directed to a sensor characterization storage device in an x-ray image sensor, and does not discuss the use of adhesive at all, let alone a positioning technique that uses a pressure sensitive adhesive to create a removable bond. Carroll et al., therefore, does not correct the deficiencies of Brooks, and cannot render obvious the pending claims.

Koren, as understood by Applicants, is merely directed to envelopes for reusable x-ray media, and also does not discuss the use of adhesive at all, let alone a positioning technique that uses a pressure sensitive adhesive to create a removable bond.

Koren, therefore, also does not correct the deficiencies of Brooks, and cannot render obvious the pending claims.

Nothing has been found in Brooks, Carroll et al., or Koren, either separately or in combination (assuming a combination to be permissible) that would teach or suggest a positioning system or method that uses a holder removably bonded to an electronic image sensor (or to a sheath covering an electronic image sensor) by a pressure sensitive adhesive, which enables the holder to be applied to and removed from the electronic image sensor (or sheath) by a dental practitioner, as recited in the independent claims.

Accordingly, Applicants respectfully submit that the independent claims are plainly patentable over Brooks, Carroll et al., or Koren, or any combination thereof, even assuming a combination to be permissible. Therefore, it is respectfully requested that the Examiner remove the rejections.

A review of the other art of record has failed to reveal anything which, in Applicants' opinion, would remedy the deficiencies of the art discussed above, as references against the independent claims herein. Those claims are therefore believed patentable over the art of record.

The other claims in this application are each dependent from one or another of the independent claims discussed above and are therefore believed patentable for the same reasons. Since each dependent claim is also deemed to define an additional aspect of the invention, however, the individual reconsideration of the patentability of each on its own merits is respectfully requested.

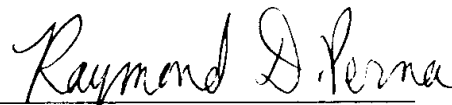
This Amendment After Final Action is believed clearly to place this application in condition for allowance and its entry is therefore believed proper under 37

C.F.R. § 1.116. Accordingly, entry of this Amendment After Final Action, as an earnest effort to advance prosecution and reduce the number of issues, is respectfully requested. Should the Examiner believe that issues remain outstanding, he is respectfully requested to contact Applicants' undersigned attorney in an effort to resolve such issues and advance the case to issue.

In view of the foregoing amendments and remarks, Applicants respectfully request favorable reconsideration and early passage to issue of the present application.

Applicants' undersigned attorney may be reached in our New York office by telephone at (212) 218-2100. All correspondence should continue to be directed to our below listed address.

Respectfully submitted,



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